Attorney Docket No 902OE002

PATENT

TO ALL WHOM IT MAY CONCERN:

Be it known the we, Patrick Gilliland, Luis Torres, Evgueniy Anguelov, David Schie and Michael Ward, have invented an AUTOMATIC POWER CONTROL AND LASER SLOPE EFFICIENCY NORMALIZING CIRCUIT of which the following is the specification.

Atty. Case No.: 902OE002.C1 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: Gilliland, et al.	)	
	)	Group Art Unit:
For: Automatic Power Control and Laser Slope Efficiency Normalizing Circuit	)	Examiner:
Serial No.:	)	
	)	December 11, 2001
	)	Chicago, Illinois

Box Patent Application
Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Prior to the examination of the above-referenced application, please amend the application as follows:

In the Specification:

Page 1, before line 1, insert the following new paragraph:

--Continuation Application

This application is a continuation application of U.S. application filed February 4, 2000, having serial 09/498,221.--

In the Claims:

Cancel without prejudice original Claims 1- 20.

Add new Claims 21-47.

21. (New) A laser transmitter circuit, comprising:

a variable voltage driver having an output and a control input;

a laser diode;

a resistor connected in series between the output of the variable voltage driver and the laser diode for converting output voltage from the variable voltage driver into a variable AC current drive signal to the laser diode;

a potentiometer connected to the control input of the variable voltage driver; and

an automatic power control circuit (APC) for setting and controlling power emitted by the laser diode.

22. (New) The laser transmitter of Claim 21, further comprising:

a capacitor connected in parallel with the resistor.

23. (New) The laser transmitter of Claim 22, wherein the capacitor is a variable capacitor which functions to speed up rise and fall times of the variable AC current signal to the laser diode.

24. (New) The laser transmitter of Claim 21, wherein the potentiometer is a digital potentiometer.

25. (New) The laser transmitter of Claim 21, wherein the variable voltage driver includes an Arizona Microtek AZM100EL16VS.

26. (New) The laser transmitter of Claim 21, wherein the resistor connected in series with the output of the variable voltage driver converts output voltage of the variable voltage driver into a variable AC current drive signal.

27. (New) The laser transmitter of Claim 21, wherein the resistor connected in series between the output of the variable voltage driver and the laser diode functions to create a variable AC laser diode current signal, and the laser diode is responsive to the variable AC laser diode current signal for lasing and thereby producing an optical data output signal.

28. (New) A laser transmitter, comprising:

a variable voltage driver having an output and a control input;

a laser diode;

a resistor connected in series between the output of the variable voltage driver and the laser diode;

a variable voltage controller connected to the control input of the variable voltage driver; and

an automatic power control circuit (APC) for setting and controlling average power emitted by the laser diode .

29. (New) The laser transmitter of Claim 28, wherein the variable voltage controller includes a potentiometer connected to the control input.

30. (New) The laser transmitter of Claim 29, wherein the potentiometer is a digital potentiometer.

31. (New) The laser transmitter of Claim 29, wherein the variable voltage controller includes a pull-up resistor connected to a variable current source.

32. (New) The laser transmitter of Claim 28, further comprising:

a capacitor connected in parallel with the resistor.

33. (New) The laser transmitter of Claim 32, wherein the capacitor is a variable capacitor.

34. (New) The laser transmitter of Claim 28, wherein the variable voltage controller and the APC are configured into an integrated circuit.

35. (New) A laser transmitter, comprising:

a voltage driver having an output;

a laser diode;

a resistor connected in series between the output of the voltage driver and the laser diode;

an automatic power control (APC) for setting and controlling the laser diode output power;

a first digital potentiometer connected to the APC so as to set output power of the laser diode; and

a digital shift register with a serial input and parallel outputs, wherein the parallel outputs are connected to the digital potentiometer for setting the resistance of said digital potentiometer.

36. (New) The laser transmitter of Claim 35, wherein said voltage driver is a variable voltage driver, said laser transmitter further comprising:

a variable voltage control connected to said voltage driver; and

a second digital potentiometer connected to said variable voltage control so as to produce a variable output control voltage.

37. (New) The laser transmitter of Claim 35, wherein the APC includes the first digital potentiometer.

38. (New) The laser transmitter of Claim 35, wherein the automatic power control (APC), the first digital potentiometer, and the digital shift register are configured into an integrated circuit.

39. (New) The laser transmitter of Claim 35, further comprising:

a laser fault latching circuit for monitoring output power emitted by the laser diode; and

a laser disable circuit for preventing current flow to the laser diode when excess output power is detected.

40. (New) The laser transmitter of Claim 21, wherein the laser diode is capable of transmitting 100 megabits of data per second.

41. (New) The laser transmitter circuit of Claim 21, wherein the potentiometer is a digital potentiometer including an EEPROM (Electrically-Erasable Programmable Read-Only Memory) .

42. (New) The laser transmitter circuit of Claim 21, wherein the potentiometer is a digital potentiometer including an EEPROM (Electrically-Erasable Programmable Read-Only Memory) and a shift register.

43. (New) A laser transmitter, comprising:

a variable voltage driver having an output and a control input;

a laser diode;

a resistor connected in series between the output of the variable voltage driver and the laser diode;

a control voltage generating circuit connected to the control input of the variable voltage driver; and

an automatic power control circuit (APC) for setting and controlling power emitted by the laser diode.

44. (New) The laser transmitter of Claim 43, wherein the control voltage generating circuit includes a potentiometer.

45. (New) The laser transmitter of Claim 44, wherein the potentiometer is a digital potentiometer.

46. (New) The laser transmitter of Claim 45, wherein the digital potentiometer includes an EEPROM (Electrically-Erasable Programmable Read-Only Memory).

47. (New) The laser transmitter of Claim 46, wherein the digital potentiometer includes a shift register.

REMARKS

This is a continuation application filed under 37 C.F.R. §1.53(b). This application is a continuation application of co-pending U.S. Patent Application having Serial No. 09/498,221, filed February 4, 2000. This application claims priority based on the parent application having Serial Number 09/498,221.

Respectfully submitted,

By Steven M. Evans

Steven M. Evans
Reg. No. 35,503
Attorney for Applicant
Stratos Lightwave, Inc.
7444 West Wilson Avenue
Chicago, Illinois 60706
(708) 867-9600

I hereby certify that this paper and/or fee is being deposited with the United States Postal Service First-Class mail on this **11 of December, 2001** and is addressed to: Box Patent Application, Commissioner for Patents, Washington, D.C. 20231.

Steven M. Evans